AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (PREVIOUSLY PRESENTED) A method for measuring at least one of a concentration and change in concentration of a redox-active substance as a mediator in a molecular-biological detection system, in which as a result of application of suitable potentials to a working electrode, at least one of a reduction process and an oxidation process takes place as a redox reaction, the method comprising:

measuring an oxidation current to obtain a measuring phase;

measuring a reduction current to obtain a relaxation phase;

pulsing the potential of the working electrode, and alternately forming the measuring phases and the relaxation phases;

selecting measuring-phase pulse lengths so that, at the end of the pulse, a capacitive current is small in comparison with a Faraday current; and

selecting relaxation-phase pulse lengths so that, at the end of the pulse, a concentration gradient is relaxed such that at a beginning of a following measuring phase, the change in concentration of the mediator, brought about by the measurement of the mediator, is reversible.

2. (PREVIOUSLY PRESENTED) The method according to claim 1, wherein a current, measurable at the end of the measuring phase, forms the measuring signal.

3. (CURRENTLY AMENDED) The method according to claim 1, wherein, when measuring the oxidation ~~currents~~ current, a reduction potential is set during the relaxation phase and the species oxidized during the measuring phase and still located in front of the working electrode are reduced again.

4. (CURRENTLY AMENDED) The method according to claim 1, wherein, when measuring the reduction ~~currents~~ current, an oxidation potential is set during the relaxation phase and the species reduced during the measuring phase and still located in front of the working electrode are oxidized again.

5. (PREVIOUSLY PRESENTED) The method according to claim 3, wherein the repetition rate for the pulsed redox-cycling amounts to at least 1/10 Hz.

6. (CURRENTLY AMENDED) The method according to claim 3, wherein the pulsed redox-cycling is carried out with ~~predeterminable~~ set pulse shapes.

7. (PREVIOUSLY PRESENTED) The method according to claim 1, wherein the relaxation phase is at least as long as the measuring phase.

8. (PREVIOUSLY PRESENTED) The method according to claim 7, wherein the relaxation phase is longer than the measuring phase.

9. (PREVIOUSLY PRESENTED) The method according to claim 8, wherein, with a repetition rate of 1 Hz, the pulse lengths of the measuring phases amount to 100 to 300 ms, and the relaxation phase amounts to between 700 and 900 ms.

10. (PREVIOUSLY PRESENTED) The method according to claim 1, wherein the potentials are selected so that the reactions occur in a diffusion limiting current range.

11.-20. (CANCELLED)

21. (PREVIOUSLY PRESENTED) The method according to claim 3, wherein the repetition rate for the pulsed redox-cycling amounts to at least 1/10 Hz.

22. (PREVIOUSLY PRESENTED) The method according to claim 6, wherein the pulsed redox-cycling is carried out with at least one of a rectangular, triangular and sinusoidal course.

23. (CURRENTLY AMENDED) The method according to claim 4, wherein the pulsed redox-cycling is carried out with ~~predeterminable~~ set pulse shapes.

24. (PREVIOUSLY PRESENTED) The method according to claim 23, wherein the pulsed redox-cycling is carried out with at least one of a rectangular, triangular and sinusoidal course.

25. (PREVIOUSLY PRESENTED) The method according to claim 8, wherein, with a repetition rate of 1 Hz, the pulse lengths of the measuring phases amount to 250 ms, and the relaxation phase amounts to 750 ms.

26. (CANCELLED)

27. (CANCELLED)

28. (PREVIOUSLY PRESENTED) The method according to claim 1, further comprising:

measuring at least one of a concentration and change in concentration of a redox-active substance as a mediator, in a molecular-biological detection system, using the selected pulse lengths.